

# Global Biomarker Implementation in the WHO's World Health Survey Plus

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## What is the WHS+?

A comprehensive data collection system that provides governments of primarily low and middle-income countries with nationally-representative data on health status and behaviors within their country. The flexibility of the World Health Survey Plus (WHS+) allows it to collect broad data while adapting to a country's individual needs through a multi-platform, multi-mode, multi-topic survey program.

## Establishment

- The World Health Survey Plus (WHS+) is an expansion on WHO's original World Health Survey
- The original survey was collected from 2002-2004 and involved over 3,000 participants in each of the 69 countries enrolled
- Currently enrolled WHS+ countries include the Republic of Maldives, Kingdom of Bhutan, Republic of Ghana, Republic of Kenya, Federal Democratic Republic of Nepal, Republic of Rwanda, and the Kingdom of Cambodia. The survey aims to record data from 6,000+ participants in each country.
- WHS+ is the first survey to use new point-of-care-technologies (POCT) globally to gather data and simultaneously provide communities with their own health information

## Point-of-Care Technologies

- The WHS+ is the first global survey to collect nationally-representative biomarker data
- Using finger-prick blood samples and clinically-validated instruments, WHS+ will objectively measure risk of anemia, diabetes, and cardiovascular disease
- The Global Health Biomarker Laboratory (GHBL) is at the forefront of developing and implementing these new technologies in the field

### Finger-Prick Biomarkers

Blood glucose

HbA1c

Lipids (HDL, LDL, TG)

Hemoglobin

### Other Measures

Waist circumference

Hip circumference

Weight, height

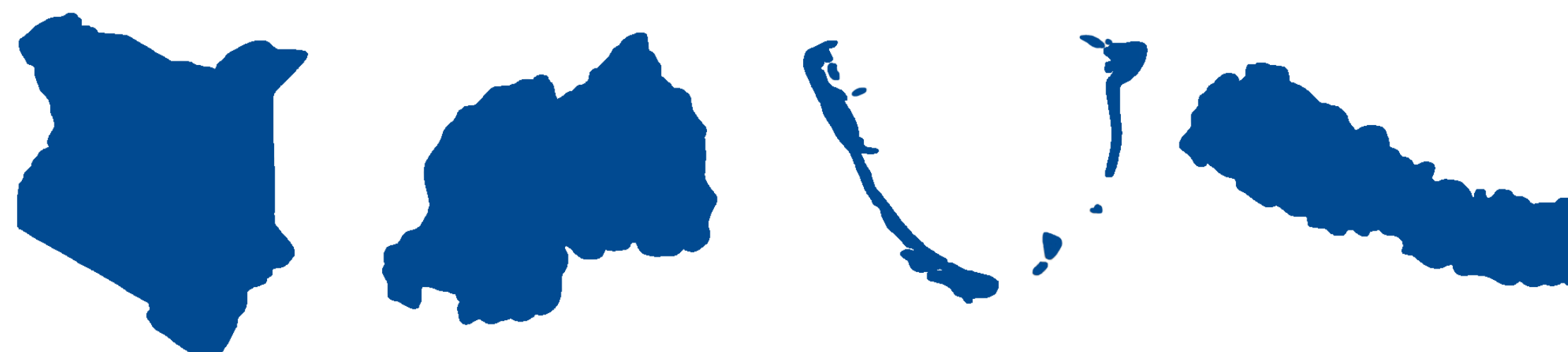
Grip strength

Blood Pressure

Walking speed

Cognitive function

Kenya Rwanda Maldives Nepal



WHO + WORLD HEALTH SURVEY PLUS

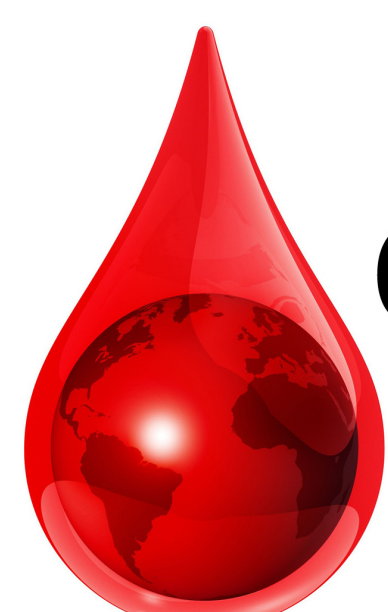
Bhutan Ghana Cambodia

## Global Health Biomarker Laboratory Role

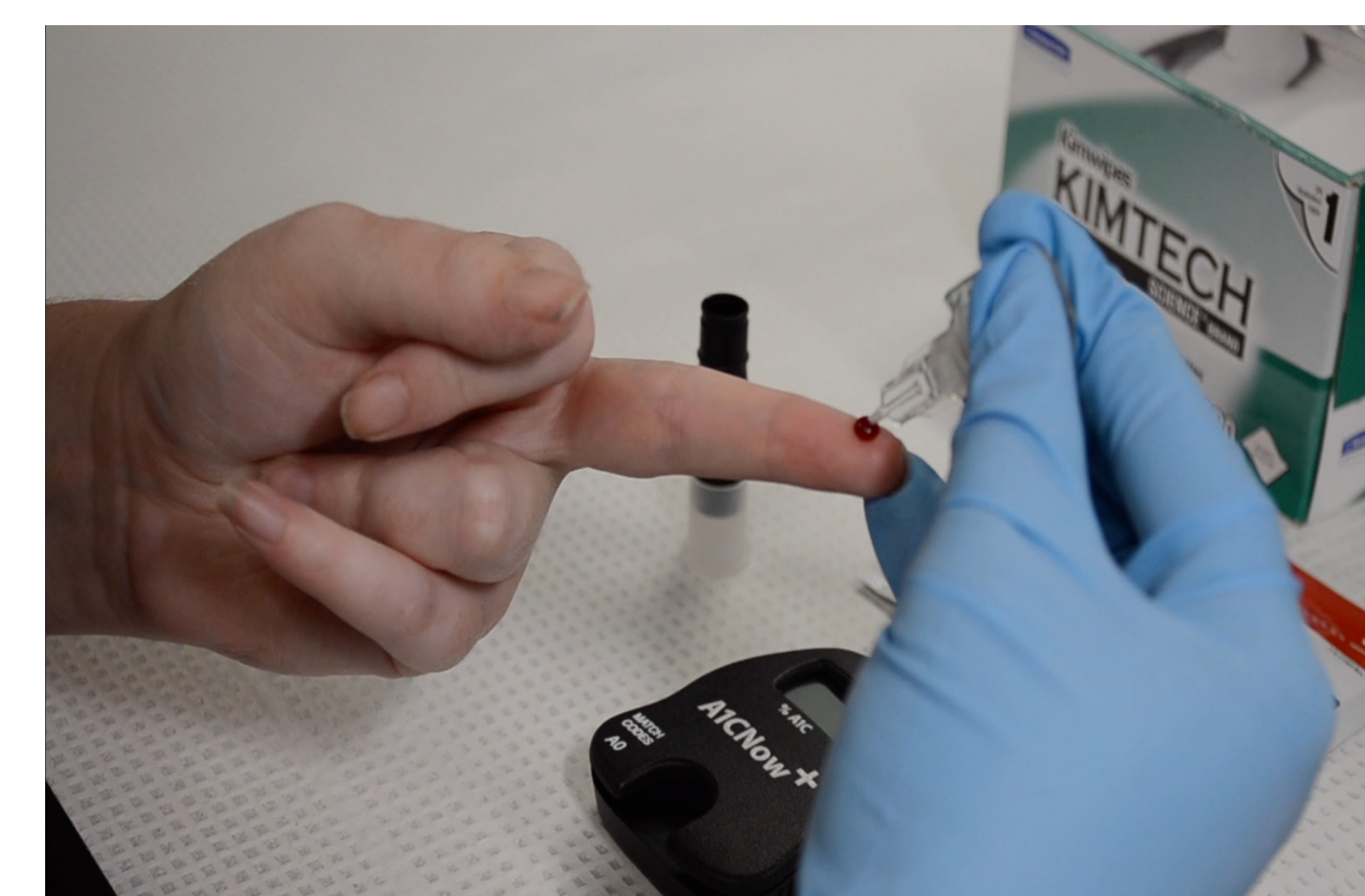
GHBL involvement in the WHS+ builds on 15 years of collaboration between GHBL and WHO that included the earlier Study on global AGEing and adult health and the Tunisian Health Examination Study.

Current WHS+ Support Includes:

- Creating and publishing surveyor training videos
- Developing and leading surveyor training in each country
- Survey design
- Creating Computer Assisted Personal Interviewing (CAPI) data capture system
- Country-specific literature review
- Protocol development



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## Goals

- Gather global biomarker data while providing communities with their own health indicators through POCT
- Collect country-specific information to fill data gaps and inform national policy
- Identify and address inequalities in healthcare systems
- Strengthen countries' statistical surveillance systems to continue monitoring health indicators
- Promote equality by releasing disaggregated health data
- Release all study materials for free to the public
- Expand and further develop POCT

## Acknowledgements



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